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an object appearing in a broadcasted program or a broadcasted commercial is acquired easily without much time and effort in a manner suitable for the interest of a viewing person.

In order to solve the above problems, a first present invention is a broadcast receiving method comprising:

a receiving step of receiving a broadcast in which additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object is broadcasted simultaneously with said broadcast contents;

a recognition vocabulary set generating step of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said received keyword information;

a speech recognition step of performing speech recognition of a voice uttered by a viewing person;

a specifying step of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and

a displaying step of displaying additional information

corresponding to said specified keyword information.

A second present invention is a broadcast receiving method comprising:

a receiving step of receiving a broadcast in which additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object and a language model are broadcasted simultaneously with said broadcast contents;

a correcting step of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby correcting a frequency of appearance of a predetermined combination of said word classes in an expression form of said language model and/or a frequency of appearance of a predetermined word with reference to said word class in an expression form of said received language model, on the basis of history information of speech recognition result of already performed speech recognition;

a speech recognition step of performing speech recognition of a voice uttered by a viewing person, by using said corrected language model;

a specifying step of specifying said keyword information on the basis of the speech recognition result; and

a displaying step of displaying additional information

a specifying step of specifying said keyword information on the basis of the speech recognition result; and a displaying step of displaying additional information corresponding to said specified keyword information.

A fourth present invention is a broadcast receiving system comprising

a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, simultaneously with said broadcast contents, and

a second apparatus having: receiving means of receiving said broadcast broadcasted from said first apparatus; recognition vocabulary set generating means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said broadcasted keyword information; speech recognition means of performing speech recognition of a voice uttered by a viewing person; specifying means of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition

result is contained in the recognition vocabulary set; and displaying means of displaying additional information corresponding to said specified keyword information.

A fifth present invention is a broadcast receiving system comprising

a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, and a language model, simultaneously with said broadcast contents, and

a second apparatus having: receiving means of receiving said broadcast broadcasted from said first apparatus; correcting means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby correcting a frequency of appearance of a predetermined combination of said word classes in an expression form of said language model and/or a frequency of appearance of a predetermined word with reference to said word class in an expression form of said broadcasted language model, on the basis of history information of speech recognition result of already performed speech recognition; speech recognition means of performing speech recognition of a voice uttered by a viewing person, by using said corrected language model; specifying means of specifying said keyword information on the basis of the speech

of already performed speech recognition; speech recognition means of performing speech recognition of a voice uttered by a viewing person, by using said corrected language model; specifying means of specifying said keyword information on the basis of the speech recognition result; and displaying means of displaying additional information corresponding to said specified keyword information.

A seventh present invention is a first apparatus comprising broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, simultaneously with said broadcast contents, wherein

    said broadcast is received by a second apparatus comprising: receiving means of receiving said broadcast; recognition vocabulary set generating means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said broadcasted keyword information; speech recognition means of performing speech recognition of a voice uttered by a viewing person; specifying means of specifying said keyword information corresponding to said recognition

vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and displaying means of displaying additional information corresponding to said specified keyword information.

An eighth present invention is a first apparatus comprising broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, and a language model, simultaneously with said broadcast contents, wherein

    said broadcast is received by a second apparatus comprising: receiving means of receiving said broadcast; correcting means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby correcting a frequency of appearance of a predetermined combination of said word classes in an expression form of said language model and/or a frequency of appearance of a predetermined word with reference to said word class in an expression form of said broadcasted language model, on the basis of history information of speech recognition result of already performed speech recognition; speech recognition means of performing speech recognition of a voice uttered by a viewing person, by using said corrected language model; specifying means of specifying said keyword information on the basis of the speech recognition result; and displaying means

specifying means of specifying said keyword information on the basis of the speech recognition result; and displaying means of displaying additional information corresponding to said specified keyword information.

Atenth present invention is a second apparatus comprising:  
receiving means of receiving a broadcast broadcasted from a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, simultaneously with said broadcast contents;

recognition vocabulary set generating means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said received keyword information;

speech recognition means of performing speech recognition of a voice uttered by a viewing person;

specifying means of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and

displaying means of displaying additional information

recognition vocabulary set.

A fourteenth present invention is a second apparatus comprising:

receiving means of receiving a broadcast broadcasted from a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, and a language model, simultaneously with said broadcast contents;

correcting means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby correcting a frequency of appearance of a predetermined combination of said word classes in an expression form of said language model and/or a frequency of appearance of a predetermined word with reference to said word class in an expression form of said received language model, on the basis of history information of speech recognition result of already performed speech recognition;

speech recognition means of performing speech recognition of a voice uttered by a viewing person, by using said corrected language model;

specifying means of specifying said keyword information on the basis of the speech recognition result; and

displaying means of displaying additional information

and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said received keyword information;

speech recognition means of performing speech recognition of a voice uttered by a viewing person;

specifying means of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and

displaying means of displaying additional information corresponding to said specified keyword information.

A twenty fifth present invention is a program of causing a computer to serve, in a second apparatus according to the fourteenth present invention, as:

receiving means of receiving a broadcast broadcasted from a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, and a language model, simultaneously with said broadcast contents;

correcting means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby correcting

CLAIMS

1. (Amended) A broadcast receiving method comprising:
  - a receiving step of receiving a broadcast in which additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object is broadcasted simultaneously with said broadcast contents;
  - a recognition vocabulary set generating step of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said received keyword information;
  - a speech recognition step of performing speech recognition of a voice uttered by a viewing person;
  - a specifying step of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and
  - a displaying step of displaying additional information corresponding to said specified keyword information.

2. (Amended)            A broadcast receiving system comprising

    a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, simultaneously with said broadcast contents, and

    a second apparatus having: receiving means of receiving said broadcast broadcasted from said first apparatus; recognition vocabulary set generating means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said broadcasted keyword information; speech recognition means of performing speech recognition of a voice uttered by a viewing person; specifying means of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and displaying means of displaying additional information corresponding to said specified keyword information.

3. (Amended) A first apparatus comprising broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, simultaneously with said broadcast contents, wherein

    said broadcast is received by a second apparatus comprising: receiving means of receiving said broadcast; recognition vocabulary set generating means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said broadcasted keyword information; speech recognition means of performing speech recognition of a voice uttered by a viewing person; specifying means of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and displaying means of displaying additional information corresponding to said specified keyword information.

4. (Amended) A second apparatus comprising:

receiving means of receiving a broadcast broadcasted from a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, simultaneously with said broadcast contents;

recognition vocabulary set generating means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said received keyword information;

speech recognition means of performing speech recognition of a voice uttered by a viewing person;

specifying means of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and

displaying means of displaying additional information corresponding to said specified keyword information.

5. A second apparatus according to claim 4, wherein an appearance frequency determined in advance is imparted to each word of said synonym dictionary, and wherein

when a plurality of words have been recognized as candidates of said speech recognition, said speech recognition means specifies a word having the highest appearance frequency, as a word recognized as said speech recognition result.

6. A second apparatus according to claim 5, comprising appearance frequency correcting means of rewriting said appearance frequency depending on a recognition result of said speech recognition result.

7. A second apparatus according to claim 5, comprising appearance frequency correcting means of rewriting said appearance frequency corresponding to each word of said recognition vocabulary set depending on history information of said speech recognition result, wherein

    said appearance frequency corresponding to each word is imparted to each word of said recognition vocabulary set, and wherein

    said speech recognition means performs said speech recognition using said appearance frequencies of said recognition vocabulary set.

8. A second apparatus according to any one of claims 4-7, comprising transmitting means of transmitting an instruction corresponding to a predetermined operation to a predetermined

transmission destination when the predetermined operation is performed on said displayed additional information.

9. A second apparatus according to claim 8, wherein said program additional information is goods sales information and/or services sales information, and wherein

    said instruction corresponding to a predetermined operation is a request for brochure or purchase instruction information concerning said goods and/or said service.

10. (Amended) A program of causing a computer to serve, in a second apparatus according to claim 4, as:

    receiving means of receiving a broadcast broadcasted from a first apparatus having broadcasting means of broadcasting additional information that is made to correspond to an object appearing in broadcast contents broadcasted from a broadcasting station and that contains keyword information of specifying said object, simultaneously with said broadcast contents;

    recognition vocabulary set generating means of utilizing a synonym dictionary in which a plurality of words are classified into word classes on the basis of the synonymy between the words, and of thereby generating, in a manner corresponding to said additional information, a recognition vocabulary set consisting of words belonging to said word class including a word corresponding to said received keyword information;

speech recognition means of performing speech recognition of a voice uttered by a viewing person;

specifying means of specifying said keyword information corresponding to said recognition vocabulary set when a word recognized as the speech recognition result is contained in the recognition vocabulary set; and

displaying means of displaying additional information corresponding to said specified keyword information.

11. A computer-processible recording medium carrying a program according to claim 10.